20740WV Installation, Storage, and Compute with Windows Server

Overview

Course Duration: 5 Days

About This Course

This five-day course is designed primarily for IT professionals who have some experience with Windows Server. It is designed for professionals who will be responsible for managing storage and compute by using Windows Server, and who need to understand the scenarios, requirements, and storage and compute options that are available and applicable to Windows Server.

Although this course and the associated labs are written for Windows Server 2022, the skills taught will also be backwards compatible for Server 2016 and Server 2019.

The course and labs also focus on how to administer Windows Server using not only the traditional tools such as PowerShell and Server manager, but also Windows Admin Center.

Audience Profile

This course is intended for IT professionals who have some experience working with Windows Server, and who are looking for a single five-day course that covers storage and computer technologies in Windows Server. This course will help them update their knowledge and skills related to storage and computing for Windows Server.

Candidates suitable for this course would be:

- Windows Server administrators who are relatively new to Windows Server administration and related technologies, and who want to learn more about the storage and computer features in Windows Server.
- IT professionals with general IT knowledge who are looking to gain knowledge about Windows Server especially around storage and computer technologies in Windows Server.

Course Details

Module 1: Installing, upgrading, and migrating servers and workloads.

This module describes the new features of Windows Server and explains how to prepare for and install Server Core. This module also describes how to plan a server upgrade and migration strategy and explains how to perform a migration of server roles and workloads within and across domains. Finally, this module explains how to choose an activation model based on your environment characteristics.

Lessons

- Introducing Windows Server
- Preparing and installing Server Core
- Preparing for upgrades and migrations
- Migrating server roles and workloads
- Windows Server activation models

Module 2: Configuring local storage

This module explains how to manage disks and volumes in Windows Server.

Lessons

- Managing disks in Windows Server
- Managing volumes in Windows Server

Module 3: Implementing enterprise storage solutions.

This module discusses direct-attached storage (DAS), network-attached storage (NAS), and storage area networks (SANs). It also explains the purpose of Microsoft Internet Storage Name Service (iSNS) Server, data center bridging (DCB), and Multipath I/O (MPIO). Additionally, this module compares Fibre Channel, Internet Small Computer System Interface (iSCSI), and Fibre Channel over Ethernet (FCoE), and describes how to configure sharing in Windows Server.

Lessons

- Overview of DAS, NAS, and SANs
- Comparing Fibre Channel, iSCSI, and Fibre Channel over Ethernet
- Understanding iSNS, DCB, and MPIO
- Configuring sharing in Windows Server

Module 4: Implementing Storage Spaces and Data Deduplication

This module explains how to implement and manage Storage Spaces. This module also explains how to implement Data Deduplication.

Lessons

- Implementing Storage Spaces
- Managing Storage Spaces
- Implementing Data Deduplication

Module 5: Installing and configuring Hyper-V and virtual machines.

This module provides an overview of Hyper-V and virtualization. It explains how to install Hyper-V, and how to configure storage and networking on Hyper-V host servers. Additionally, it explains how to configure and manage Hyper-V virtual machines.

Lessons

- Overview of Hyper-V
- Installing Hyper-V
- Configuring storage on Hyper-V host servers
- Configuring networking on Hyper-V host servers
- Configuring Hyper-V virtual machines
- Managing virtual machines

Module 6: Deploying and managing Windows and Hyper-V containers.

This module provides an overview of containers in Windows Server. Additionally, this module explains how to deploy Windows Server and Hyper-V containers. It also explains how to install, configure, and manage containers by using Docker.

Lessons

- Overview of containers in Windows Server
- Deploying Windows Server and Hyper-V containers
- Installing, configuring, and managing containers by using Docker

Module 7: Overview of high availability and disaster recovery

This module provides an overview of high availability and high availability with failover clustering in Windows Server. It further explains how to plan high availability and disaster recovery solutions with Hyper-V virtual machines. Additionally, this module explains how to back up and restore the Windows Server operating system and data by using Windows Server Backup.

Lessons

- Defining levels of availability
- Planning high availability and disaster recovery solutions with Hyper-V virtual machines
- Backing up and restoring by using Windows Server Backup
- High availability with failover clustering in Windows Server

Module 8: Implementing failover clustering.

This module explains how to plan for failover clustering. It also explains how to create, manage, and troubleshoot a failover cluster.

Lessons

- Planning a failover cluster
- Creating and configuring a new failover cluster
- Maintaining a failover cluster
- Troubleshooting a failover cluster
- Implementing site high availability with stretch clustering

Module 9: Implementing failover clustering with Windows Server Hyper-V

This module describes how Hyper-V integrates with failover clustering. It also explains how to implement Hyper-V virtual machines (VMs) in failover clusters.

Lessons

- Overview of the integration of Hyper-V with failover clustering
- Implementing Hyper-V VMs on failover clusters
- Key features for VMs in a clustered environment

Module 10: Implementing Network Load Balancing

This module provides an overview of NLB clusters. It also explains how to plan and configure an NLB cluster implementation.

Lessons

- Overview of NLB
- Configuring an NLB cluster
- Planning an NLB implementation

Module 11: Creating and managing deployment images.

This module provides an overview of the Windows Server image deployment process. It also explains how to create and manage deployment images by using the Microsoft Deployment Toolkit (MDT). Additionally, it describes different workloads in the virtual machine environment.

Lessons

- Introduction to deployment images
- Creating and managing deployment images by using MDT
- Virtual machine environments for different workloads

Module 12: Managing, monitoring, and maintaining virtual machine installations.

This module provides an overview on Windows Server Update Services (WSUS) and the requirements to implement WSUS. It explains how to manage the update process with WSUS. Additionally, this module provides an overview of Windows PowerShell Desired State Configuration (DSC) and Windows Server monitoring tools. Finally, this module describes how to use Performance Monitor, and how to manage event logs.

Lessons

- WSUS overview and deployment options
- Update management process with WSUS
- Overview of Windows PowerShell DSC
- Overview of Windows Server monitoring tools
- Using Performance Monitor
- Monitoring event logs